

CLAIMS

What is claimed is:

1. A controllable restriction comprising:
a first chamber;
a second chamber;
a flow passage disposed between said first and second chambers;
a first filter disposed within said passage;
a second filter disposed within said passage; and
a plurality of particles disposed between said first and second filters, said plurality of particles being selectively arranged to control the rate of fluid flow through said passage.
2. The controllable restriction as described in Claim 1 wherein said plurality of particles are dielectric particles.
3. The controllable restriction as described in Claim 2 wherein said plurality of particles are arranged by an electric field.
4. The controllable restriction as described in Claim 1 wherein said plurality of particles are magnetizable particles.

5. The controllable restriction as described in Claim 4 wherein said plurality of particles are arranged by a magnetic field.

6. The controllable restriction as described in Claim 1 wherein said plurality of particles are selectively arranged into a first arrangement which provides a first flow rate and a second arrangement which provides a second flow rate, said second flow rate being greater than said first flow rate.

7. The controllable restriction as described in Claim 6 wherein said plurality of particles are selectively arranged into a third arrangement which provides a third flow rate, said third flow rate being between said first and second flow rates.

8. A shock absorber comprising:
a pressure tube defining a working chamber;
a piston slidably disposed within said working chamber, said piston dividing said working chamber into an upper working chamber and a lower working chamber;
a first flow passage disposed between said upper and lower working chambers, said first flow passage allowing fluid flow between said upper and lower working chambers;
a first controllable restriction disposed within said first flow passage, said first controllable restriction including a first filter disposed within said first

flow passage, a second filter disposed within said first flow passage and a first plurality of particles disposed between said first and second filters, said first plurality of particles being selectively arranged to control the rate of fluid flow through said first flow passage.

9. The shock absorber as described in Claim 8 wherein said first plurality of particles are dielectric particles.

10. The shock absorber as described in Claim 9 wherein said first plurality of particles are arranged by an electric field.

11. The shock absorber as described in Claim 8 wherein said first plurality of particles are magnetizable particles.

12. The shock absorber as described in Claim 11 wherein said first plurality of particles are arranged by a magnetic field.

13. The shock absorber as described in Claim 8 wherein said first plurality of particles are selectively arranged into a first arrangement which provides a first flow rate and a second arrangement which provides a second flow rate, said second flow rate being greater than said first flow rate.

14. The shock absorber as described in Claim 13 wherein said first plurality of particles are selectively arranged into a third arrangement which provides a third flow rate, said third flow rate being between said first and second flow rates.

15. The shock absorber as described in Claim 8 further comprising a valve attached to said piston, said valve permitting fluid flow through said first flow passage in a first direction and restricting fluid flow through said piston in a second direction.

16. The shock absorber as described in Claim 8 further comprising:

a second flow passage disposed between said upper and lower working chambers, said second flow passage allowing fluid flow between said upper and lower working chambers; and

a second controllable restriction disposed within said second flow passage, said second controllable restriction including a third filter disposed within said second flow passage, a fourth filter disposed within said second flow passage and a second plurality of particles disposed between said third and fourth filters, said second plurality of particles being selectively arranged to control the rate of fluid flow through said second flow passages.

17. The shock absorber as described in Claim 16 wherein said first and second plurality of particles are dielectric particles.

18. The shock absorber as described in Claim 17 wherein said first and second plurality of particles are arranged by an electric field.

19. The shock absorber as described in Claim 16 wherein said first and second plurality of particles are magnetizable particles.

20. The shock absorber as described in Claim 19 wherein said first and second plurality of particles are arranged by a magnetic field.

21. The shock absorber as described in Claim 16 wherein said first and second plurality of particles are selectively arranged into a first arrangement which provides a first flow rate and a second arrangement which provides a second flow rate, said second flow rate being greater than said first flow rate.

22. The shock absorber as described in Claim 21 wherein said first and second plurality of particles are selectively arranged into a third arrangement which provides a third flow rate, said third flow rate being between said first and second flow rates.